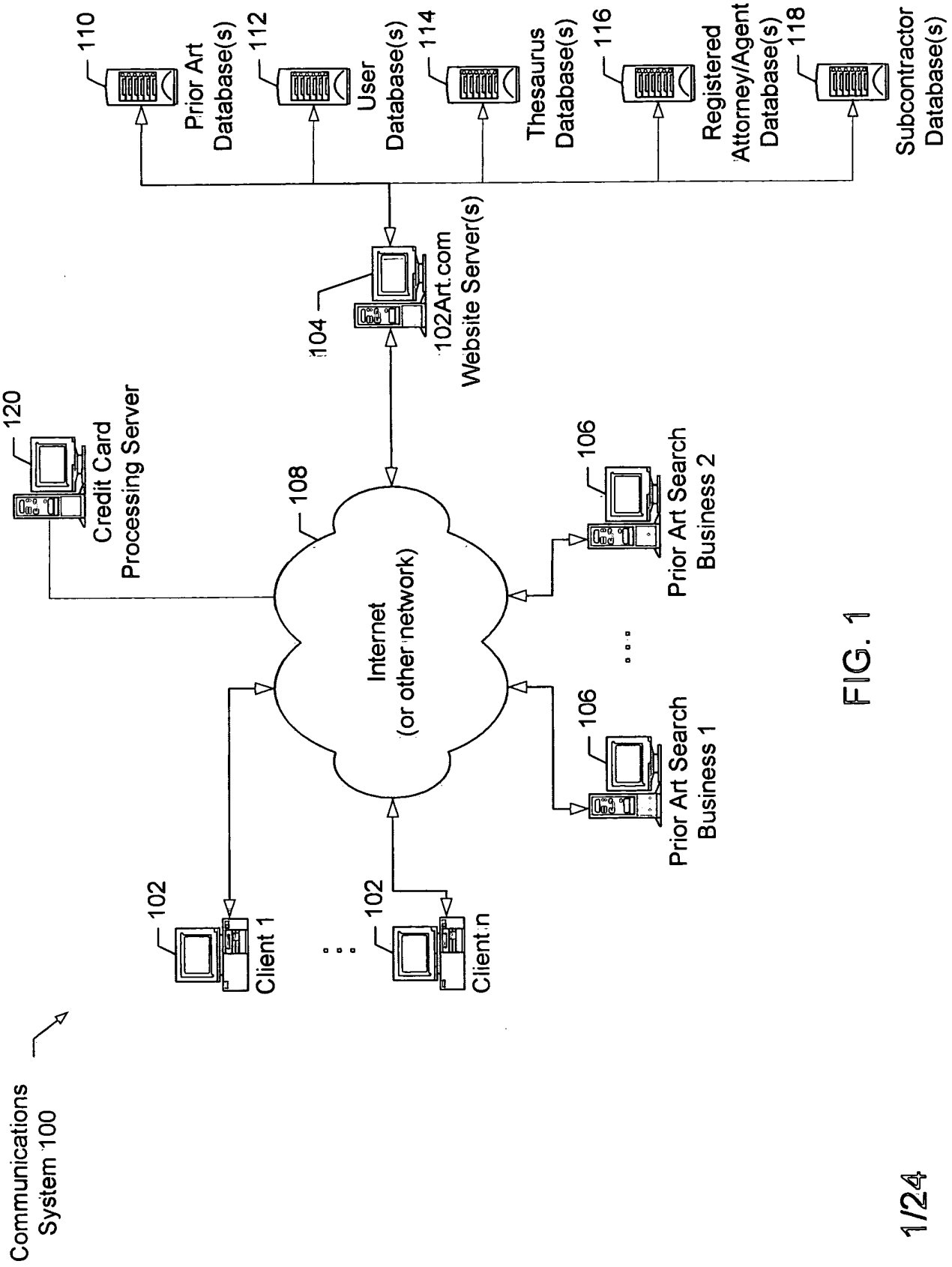

Communications System 100
Client 1
102
Client n
102
Internet (or other network)
108
Prior Art Search Business 1
106
Prior Art Search Business 2
106
Credit Card Processing Server
120
102Art.com Website Server(s)
104
Prior Art Database(s)
110
User Database(s)
112
Thesaurus Database(s)
114
Registered Attorney/Agent Database(s)
116
Subcontractor Database(s)
118

FIG. 1

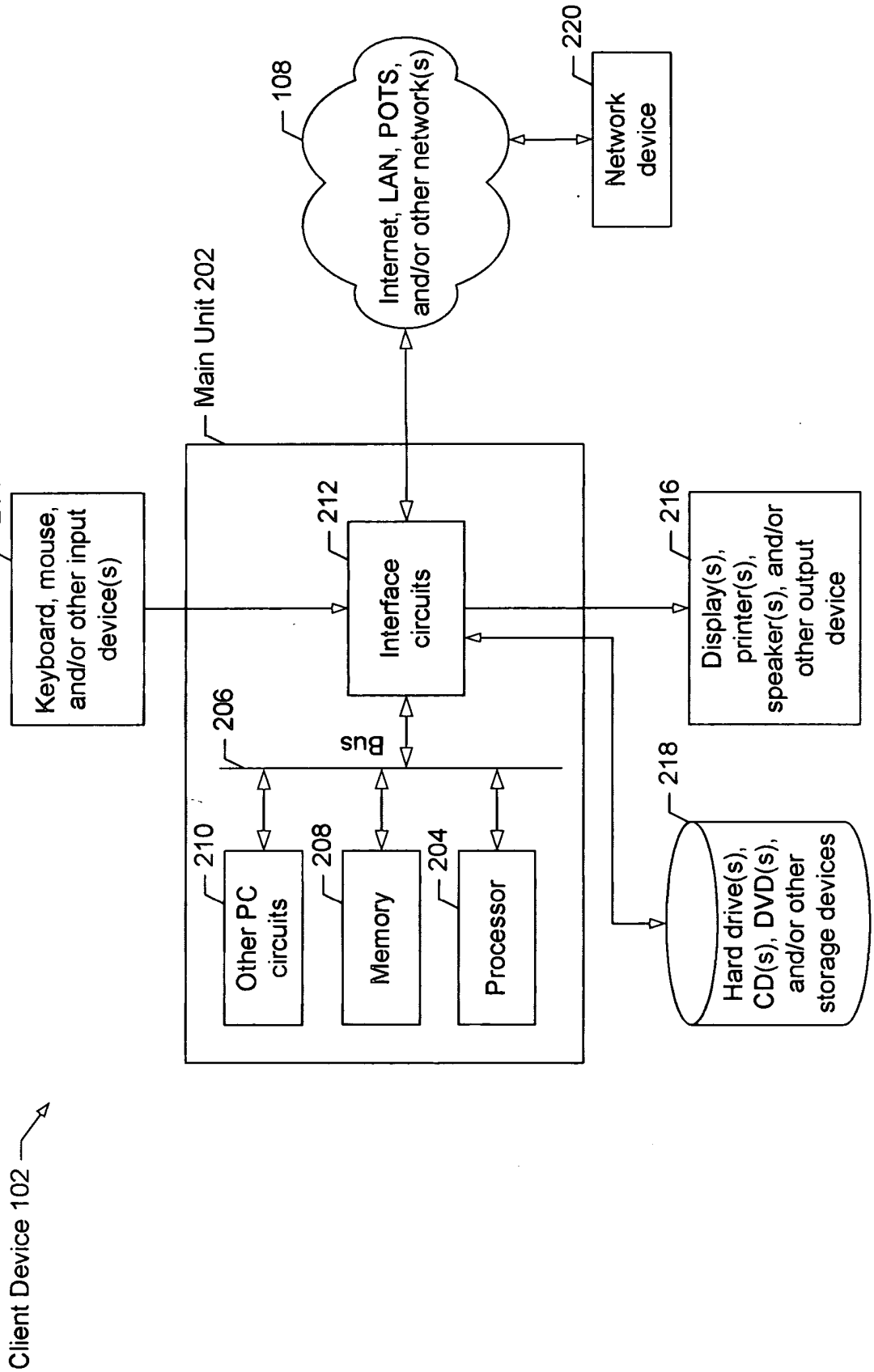

Client Device 102
Main Unit 202
Internet, LAN, POTS, and/or other network(s)
108
Network device
220
Keyboard, mouse, and/or other input device(s)
214
Interface circuits
212
Display(s), printer(s), speaker(s), and/or other output device
216
Bus
206
Other PC circuits
210
Memory
208
Processor
204
Hard drive(s), CD(s), DVD(s), and/or other storage devices
218

FIG. 2

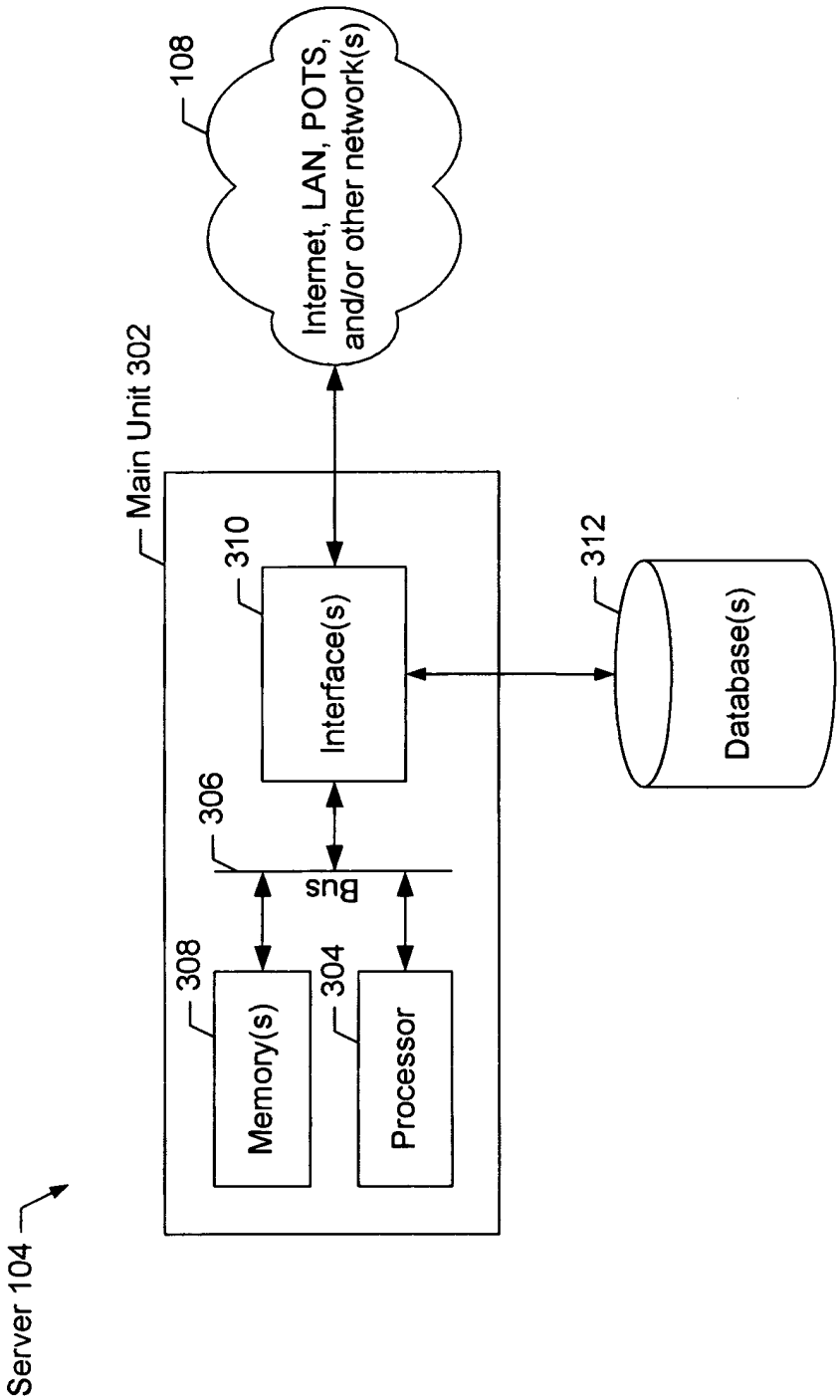

Server 104
Main Unit 302
108
Internet, LAN, POTS, and/or other network(s)
310
Interface(s)
312
Database(s)
306
Bus
308
Memory(s)
304
Processor

FIG. 3

Process For Searching And Analyzing Prior Art 400

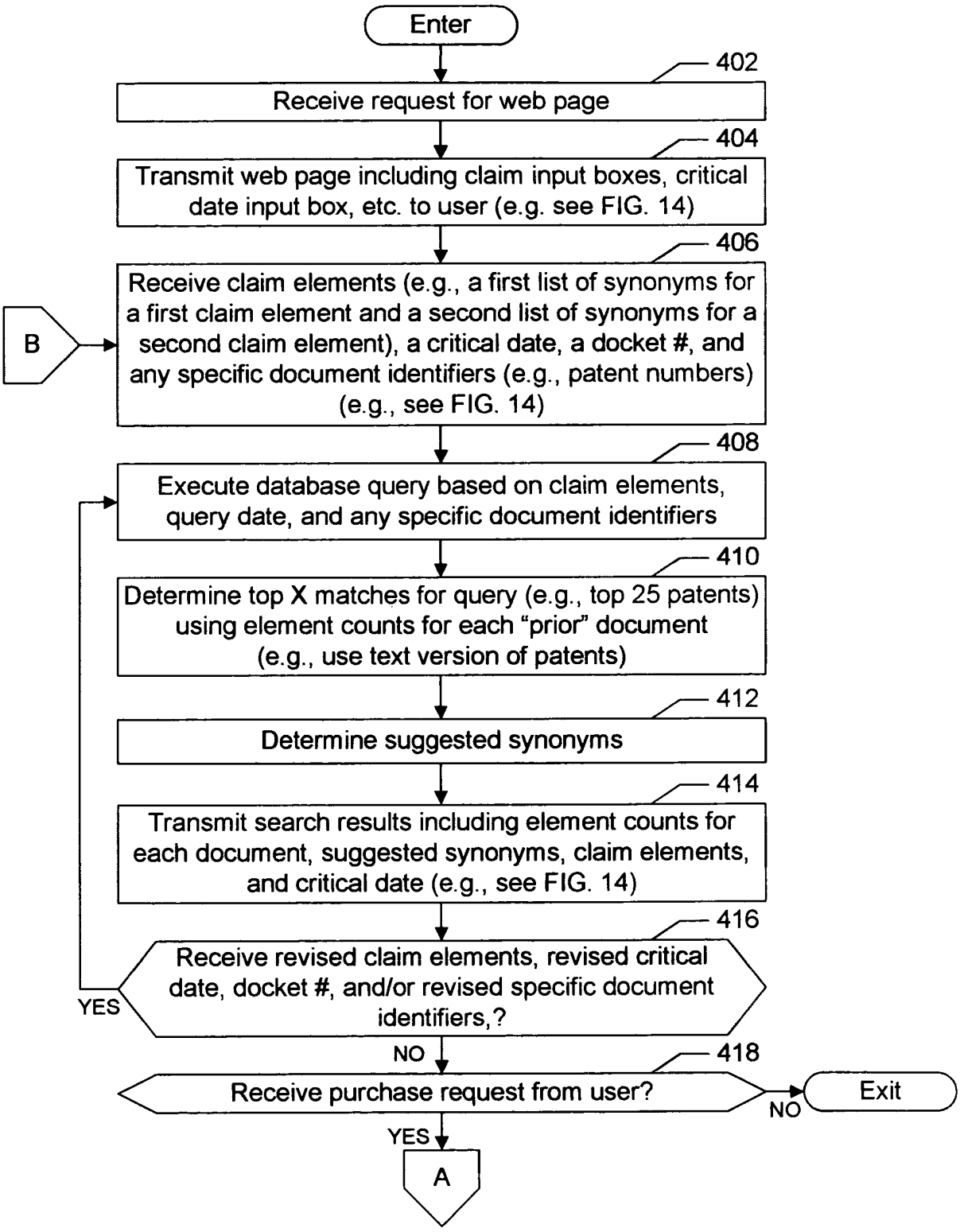





FIG. 4

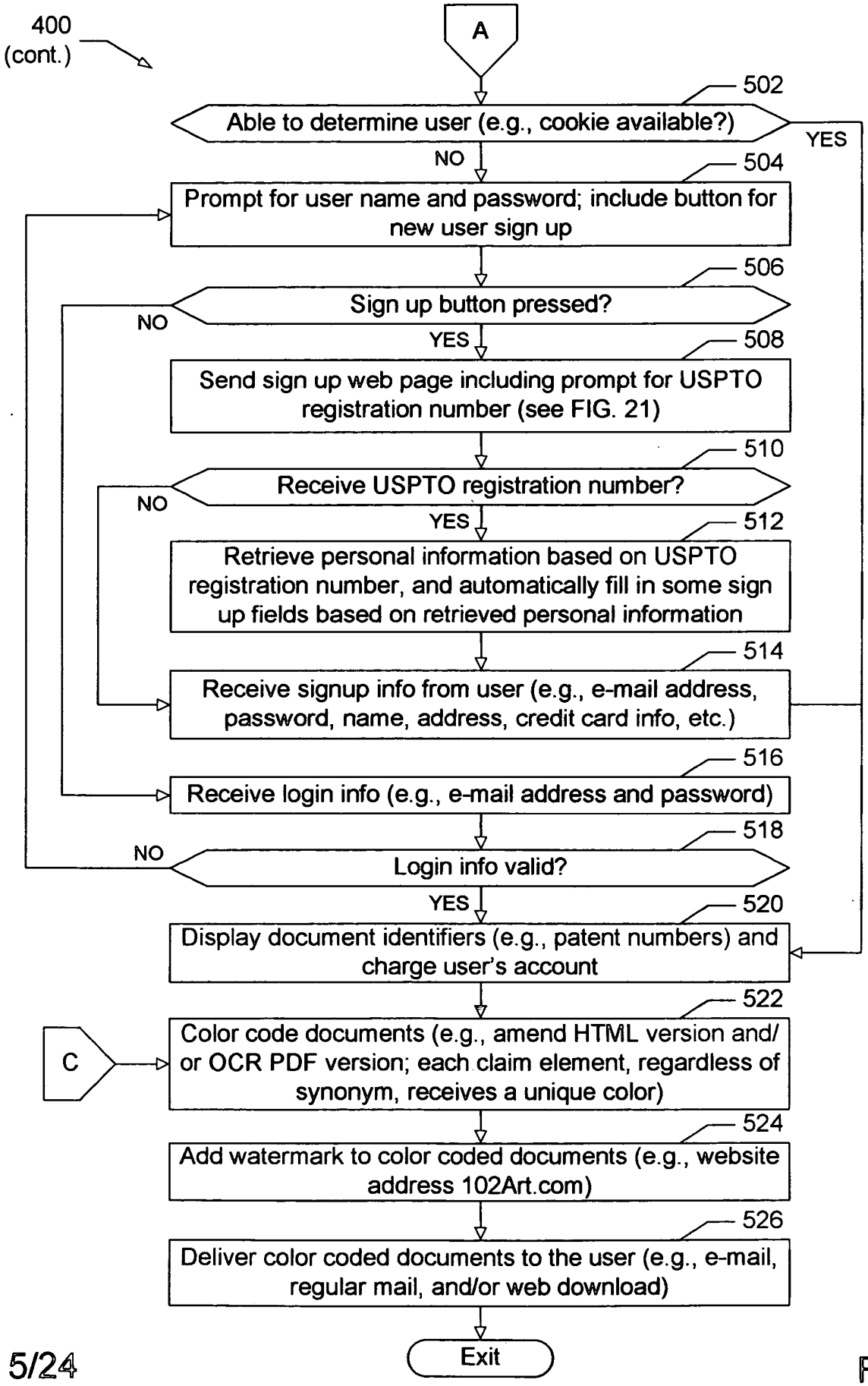

400
(cont.)
A
502
Able to determine user (e.g., cookie available?)
YES
NO
504
Prompt for user name and password; include button for new user sign up
506
Sign up button pressed?
NO
YES
508
Send sign up web page including prompt for USPTO registration number (see FIG. 21)
510
Receive USPTO registration number?
NO
YES
512
Retrieve personal information based on USPTO registration number, and automatically fill in some sign up fields based on retrieved personal information
514
Receive signup info from user (e.g., e-mail address, password, name, address, credit card info, etc.)
516
Receive login info (e.g., e-mail address and password)
518
NO
Login info valid?
YES
520
Display document identifiers (e.g., patent numbers) and charge user's account
522
C
Color code documents (e.g., amend HTML version and/or OCR PDF version; each claim element, regardless of synonym, receives a unique color)
524
Add watermark to color coded documents (e.g., website address 102Art.com)
526
Deliver color coded documents to the user (e.g., e-mail, regular mail, and/or web download)
Exit



FIG. 5

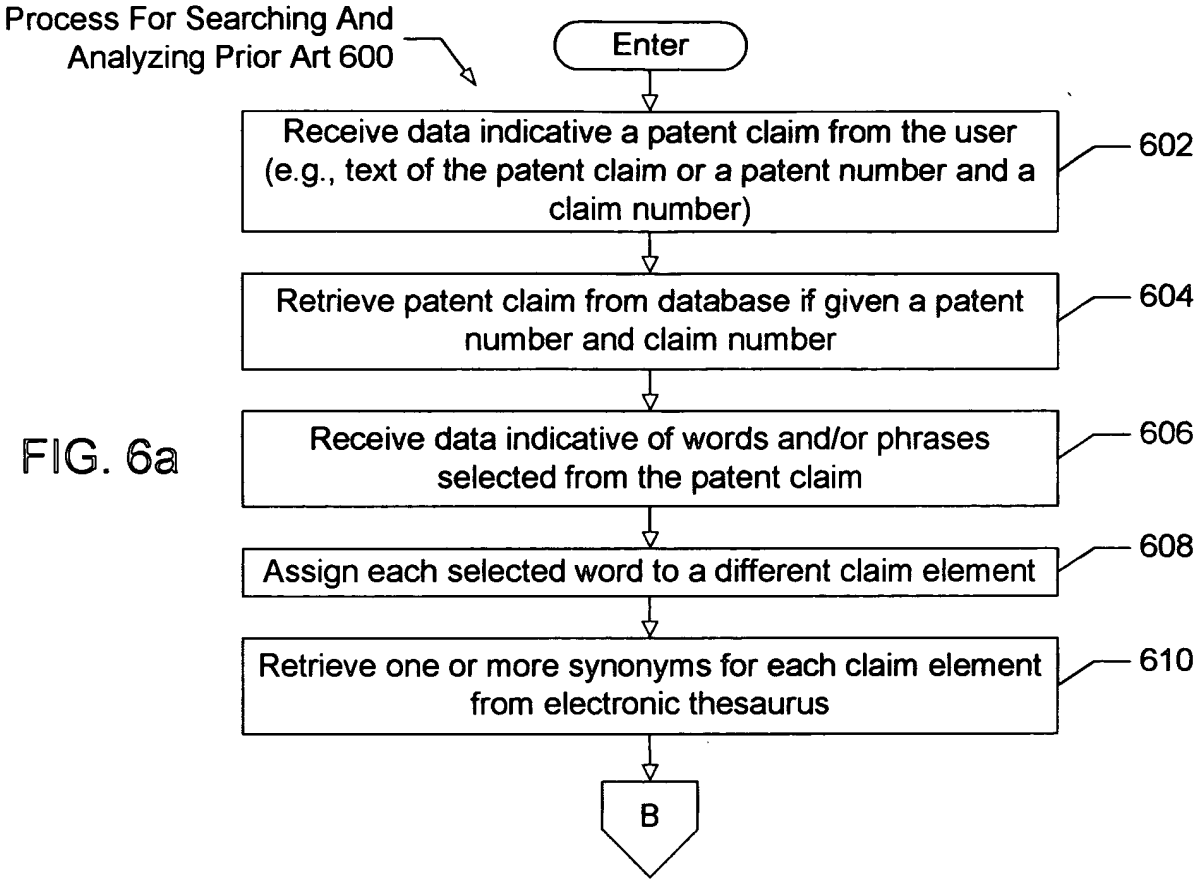

Process For Searching And Analyzing Prior Art 600
Enter
Receive data indicative a patent claim from the user (e.g., text of the patent claim or a patent number and a claim number)
602
Retrieve patent claim from database if given a patent number and claim number
604
Receive data indicative of words and/or phrases selected from the patent claim
606
Assign each selected word to a different claim element
608
Retrieve one or more synonyms for each claim element from electronic thesaurus
610
B

FIG. 6a

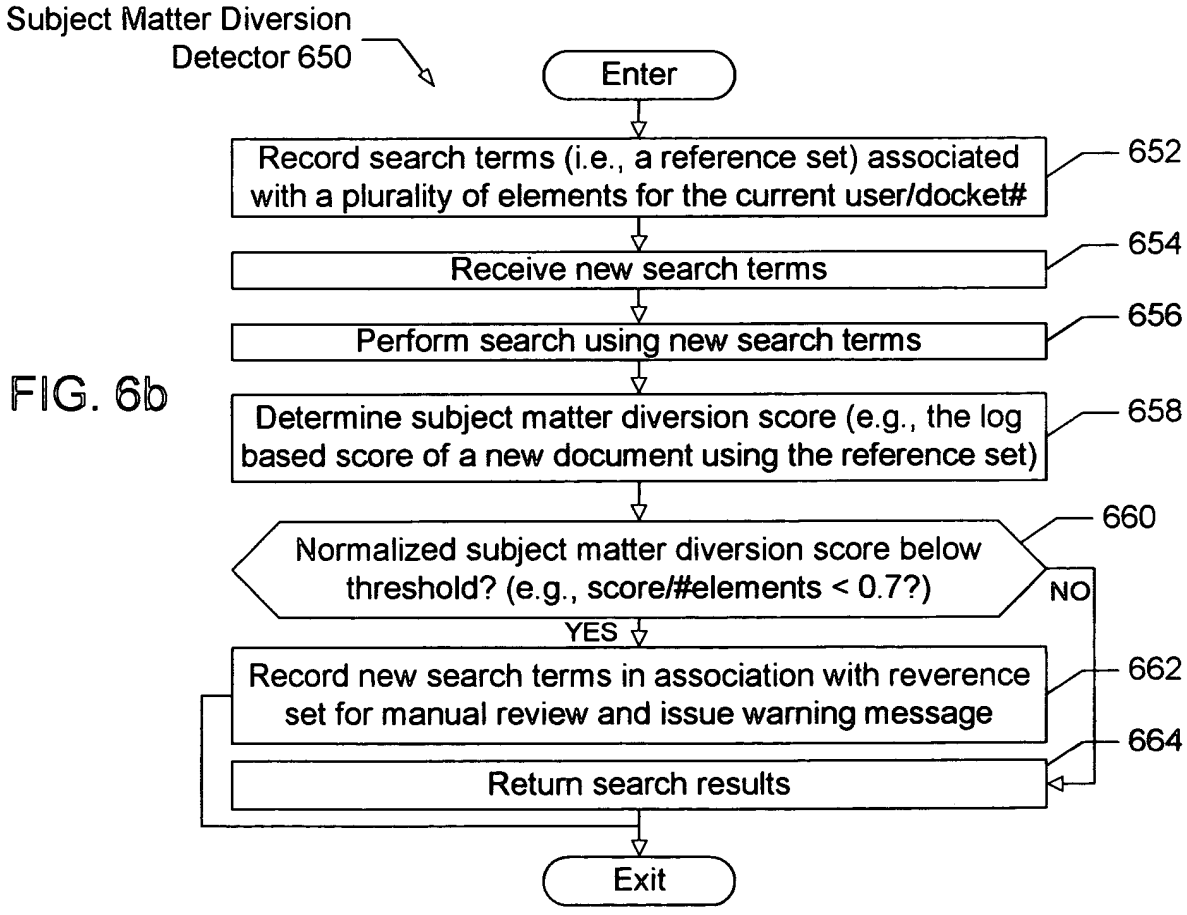

Subject Matter Diversion Detector 650
Enter
Record search terms (i.e., a reference set) associated with a plurality of elements for the current user/docket#
652
Receive new search terms
654
Perform search using new search terms
656
Determine subject matter diversion score (e.g., the log based score of a new document using the reference set)
658
Normalized subject matter diversion score below threshold? (e.g., score/#elements < 0.7?)
660
NO
YES
Record new search terms in association with reverence set for manual review and issue warning message
662
Return search results
664
Exit

FIG. 6b

Search Firm Selection Process 700

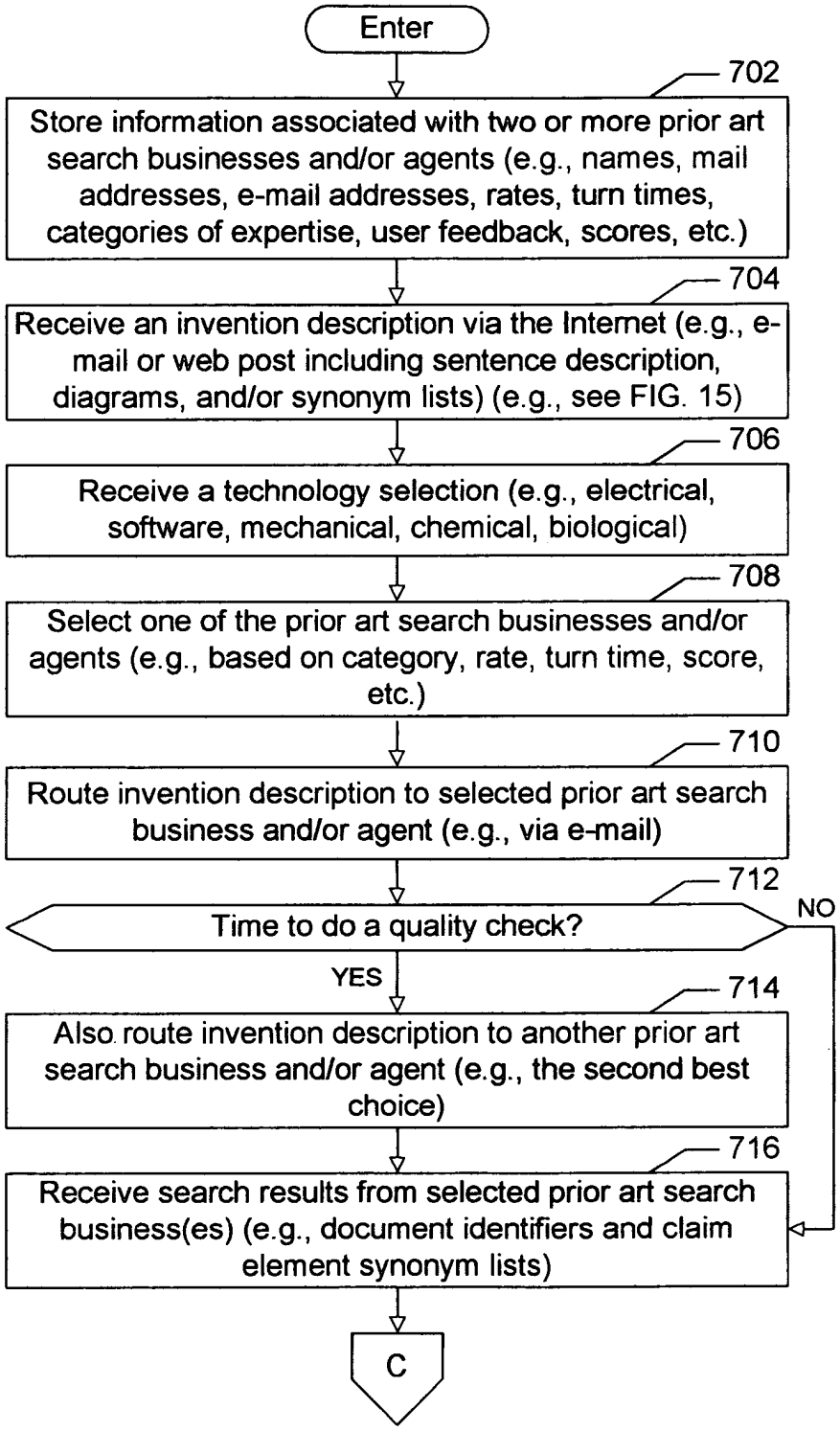





FIG. 7

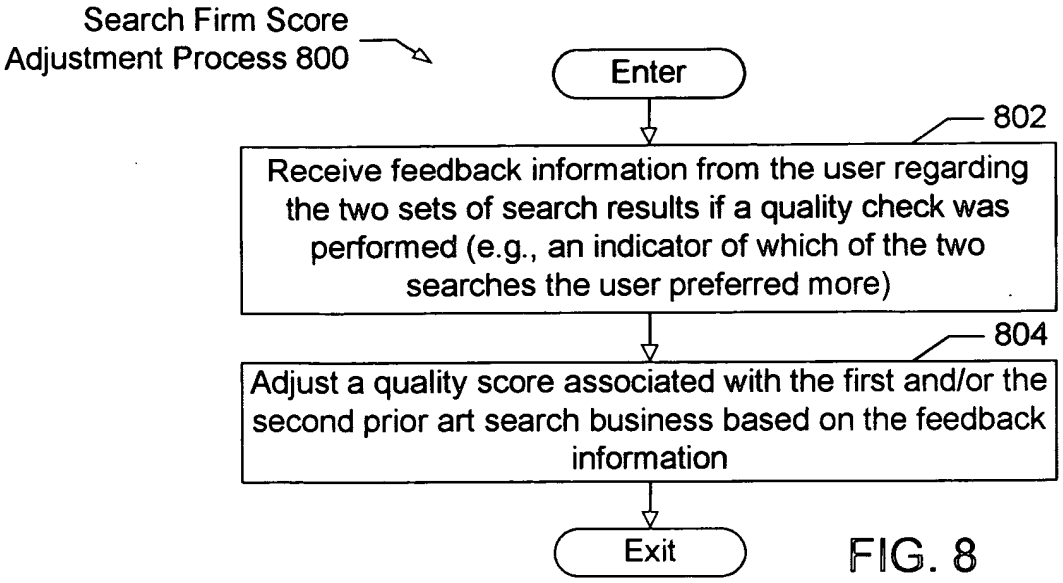

Search Firm Score Adjustment Process 800
Enter
802
Receive feedback information from the user regarding the two sets of search results if a quality check was performed (e.g., an indicator of which of the two searches the user preferred more)
804
Adjust a quality score associated with the first and/or the second prior art search business based on the feedback information
Exit

FIG. 8

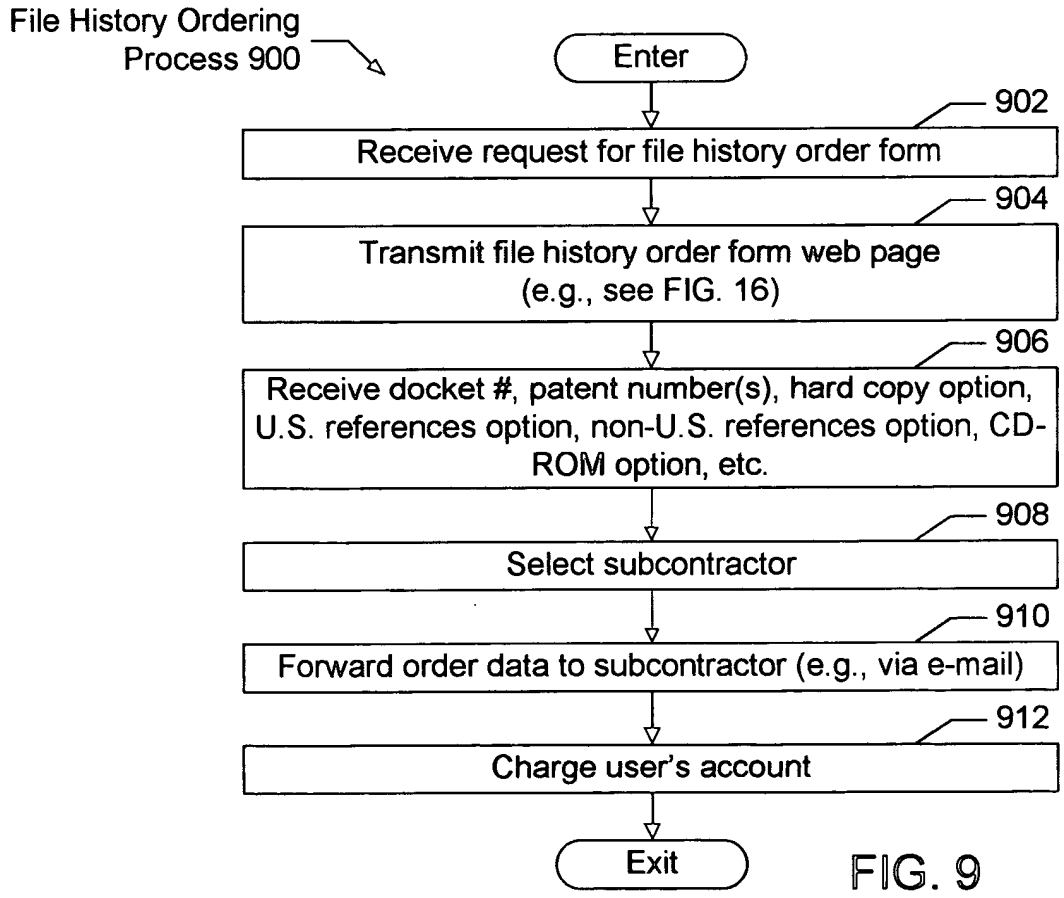

File History Ordering Process 900
Enter
902
Receive request for file history order form
904
Transmit file history order form web page (e.g., see FIG. 16)
906
Receive docket #, patent number(s), hard copy option, U.S. references option, non-U.S. references option, CD-ROM option, etc.
908
Select subcontractor
910
Forward order data to subcontractor (e.g., via e-mail)
912
Charge user's account
Exit

FIG. 9

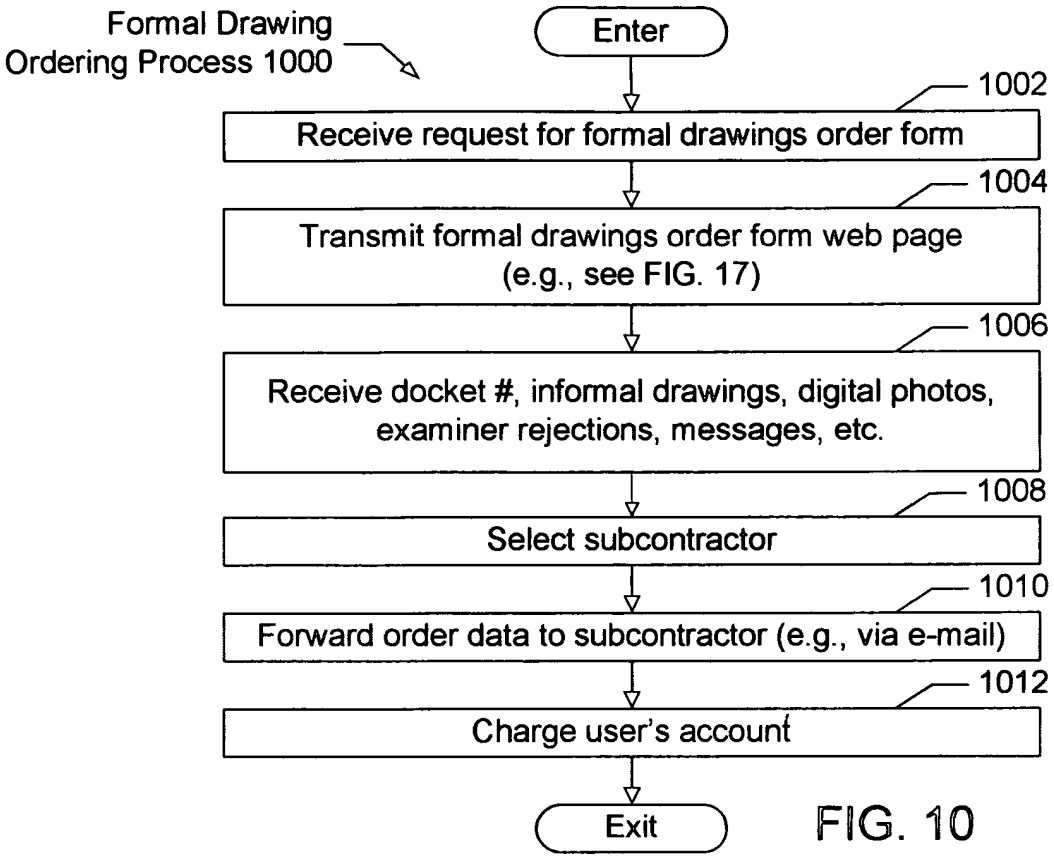

Formal Drawing Ordering Process 1000
Enter
1002
Receive request for formal drawings order form
1004
Transmit formal drawings order form web page (e.g., see FIG. 17)
1006
Receive docket #, informal drawings, digital photos, examiner rejections, messages, etc.
1008
Select subcontractor
1010
Forward order data to subcontractor (e.g., via e-mail)
1012
Charge user's account
Exit

FIG. 10

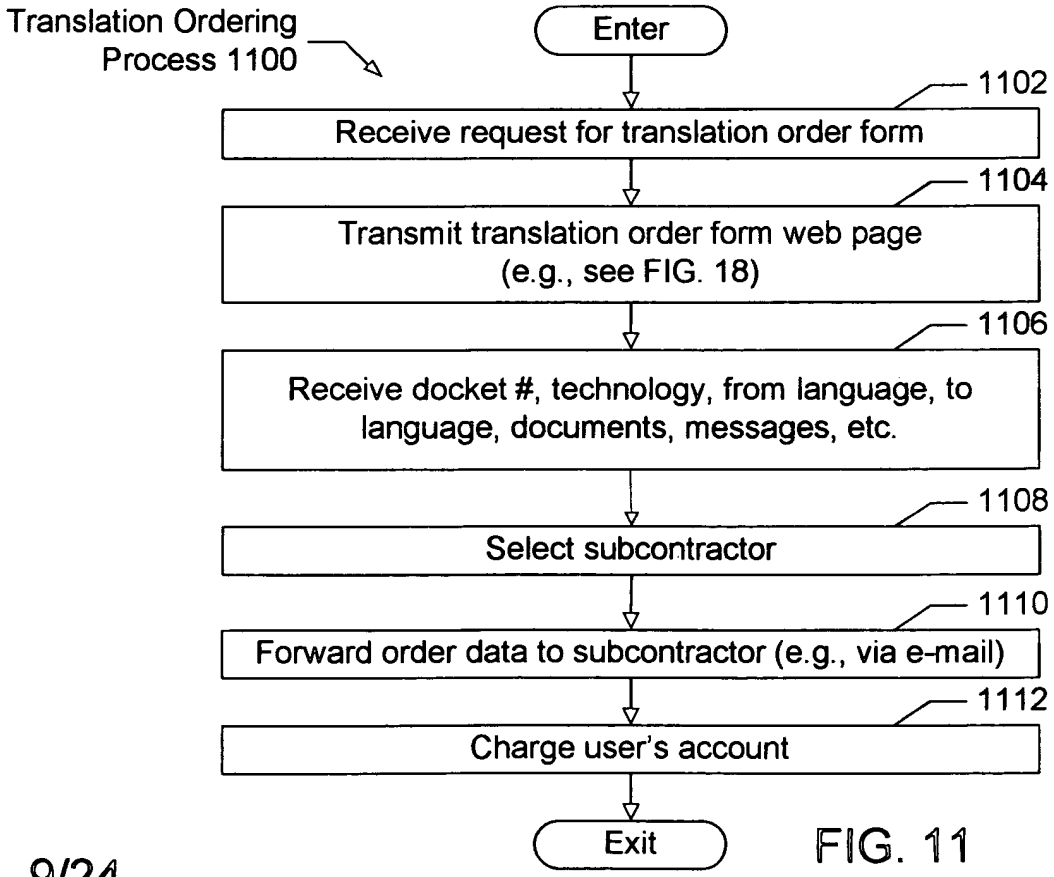

Translation Ordering Process 1100
Enter
1102
Receive request for translation order form
1104
Transmit translation order form web page (e.g., see FIG. 18)
1106
Receive docket #, technology, from language, to language, documents, messages, etc.
1108
Select subcontractor
1110
Forward order data to subcontractor (e.g., via e-mail)
1112
Charge user's account
Exit

FIG. 11

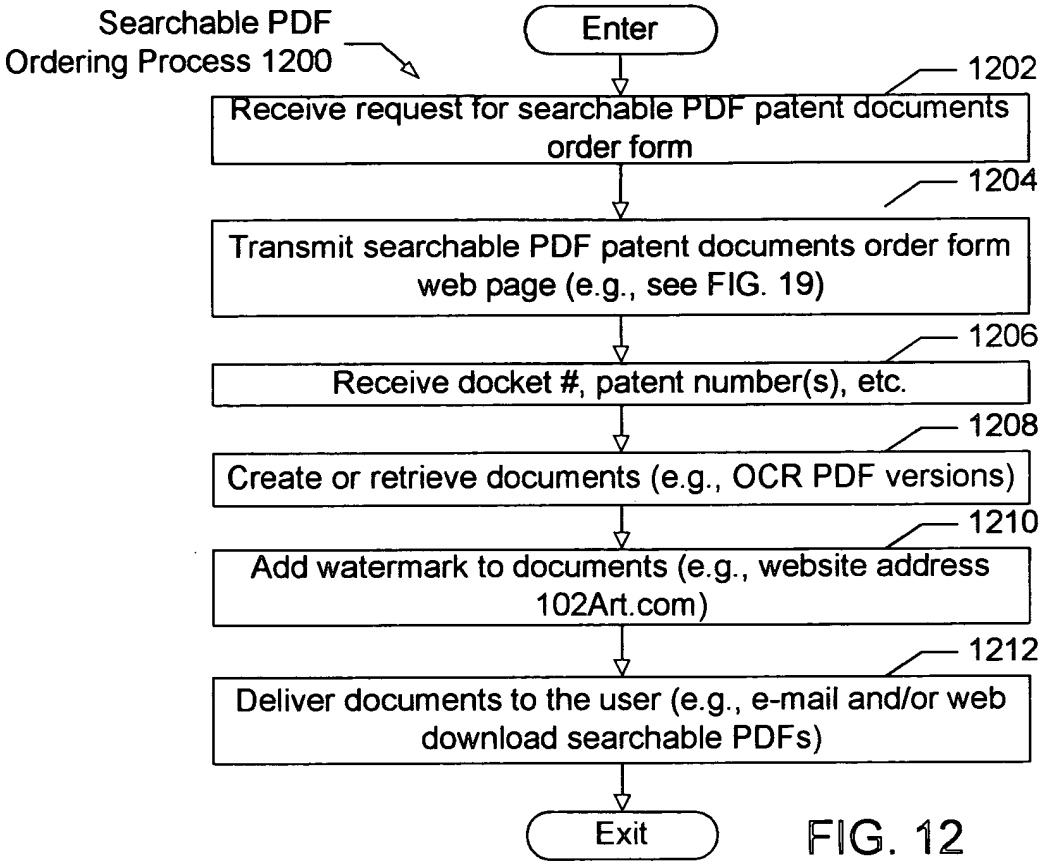

Searchable PDF Ordering Process 1200
Enter
1202
Receive request for searchable PDF patent documents order form
1204
Transmit searchable PDF patent documents order form web page (e.g., see FIG. 19)
1206
Receive docket #, patent number(s), etc.
1208
Create or retrieve documents (e.g., OCR PDF versions)
1210
Add watermark to documents (e.g., website address 102Art.com)
1212
Deliver documents to the user (e.g., e-mail and/or web download searchable PDFs)
Exit

FIG. 12

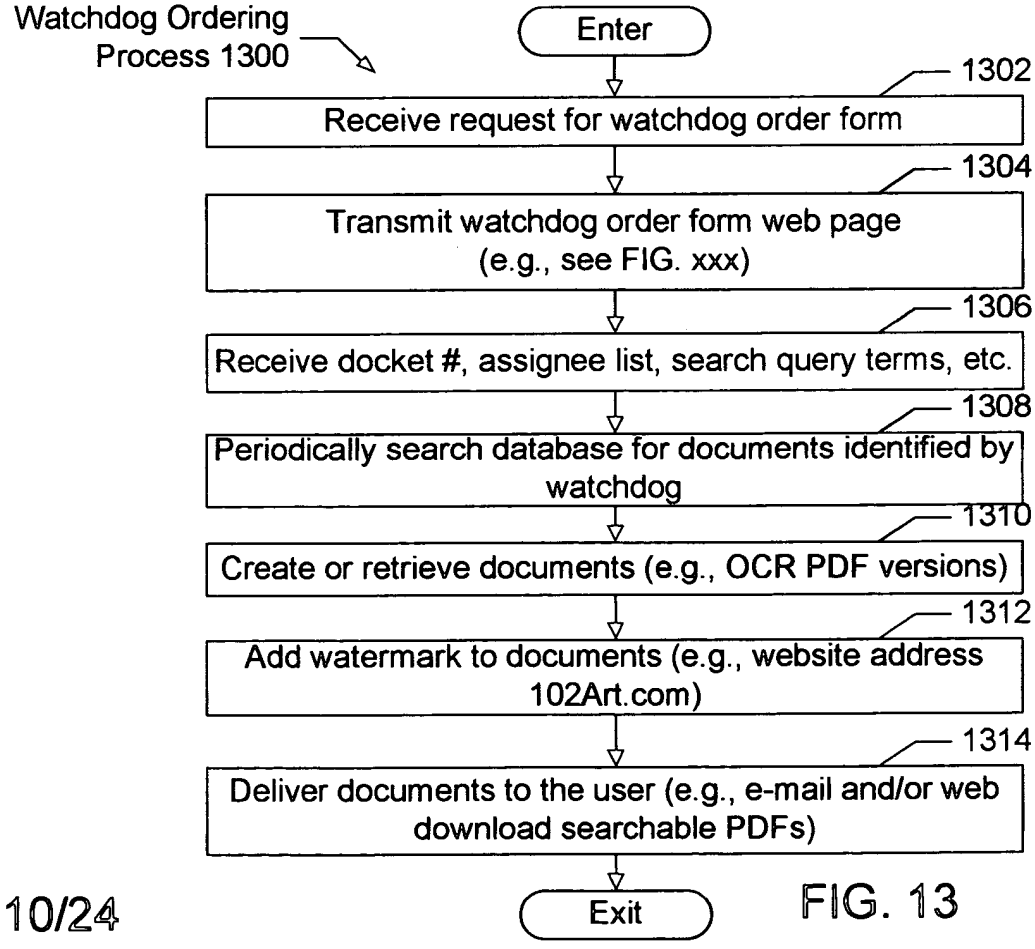
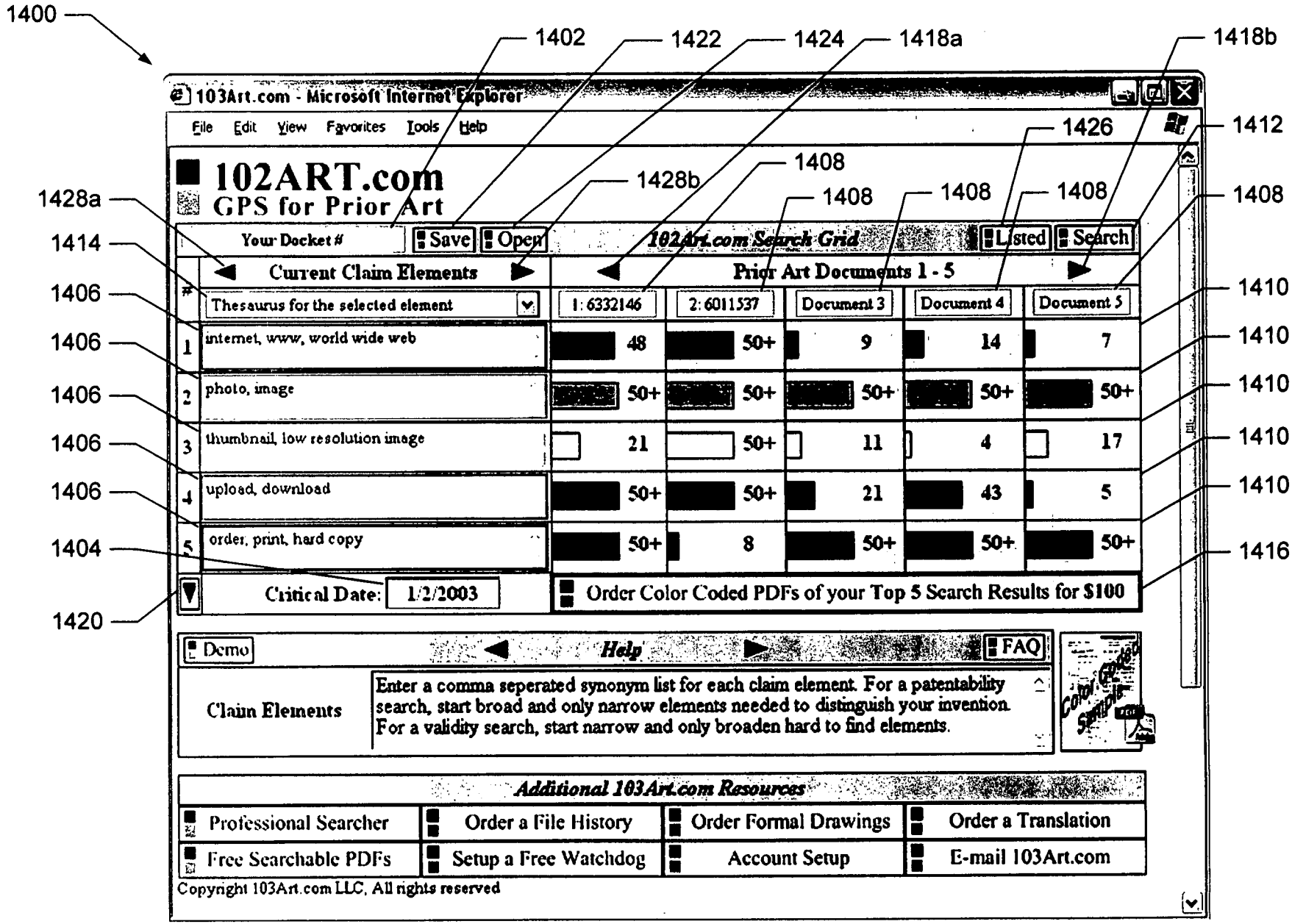

Watchdog Ordering Process 1300
Enter
1302
Receive request for watchdog order form
1304
Transmit watchdog order form web page (e.g., see FIG. xxx)
1306
Receive docket #, assignee list, search query terms, etc.
1308
Periodically search database for documents identified by watchdog
1310
Create or retrieve documents (e.g., OCR PDF versions)
1312
Add watermark to documents (e.g., website address 102Art.com)
1314
Deliver documents to the user (e.g., e-mail and/or web download searchable PDFs)
Exit

FIG. 13




Methods and Apparatus to Search and Analyze Prior Art
Inventor: Goedken
Docket: 102Art.com/1



FIG. 14a

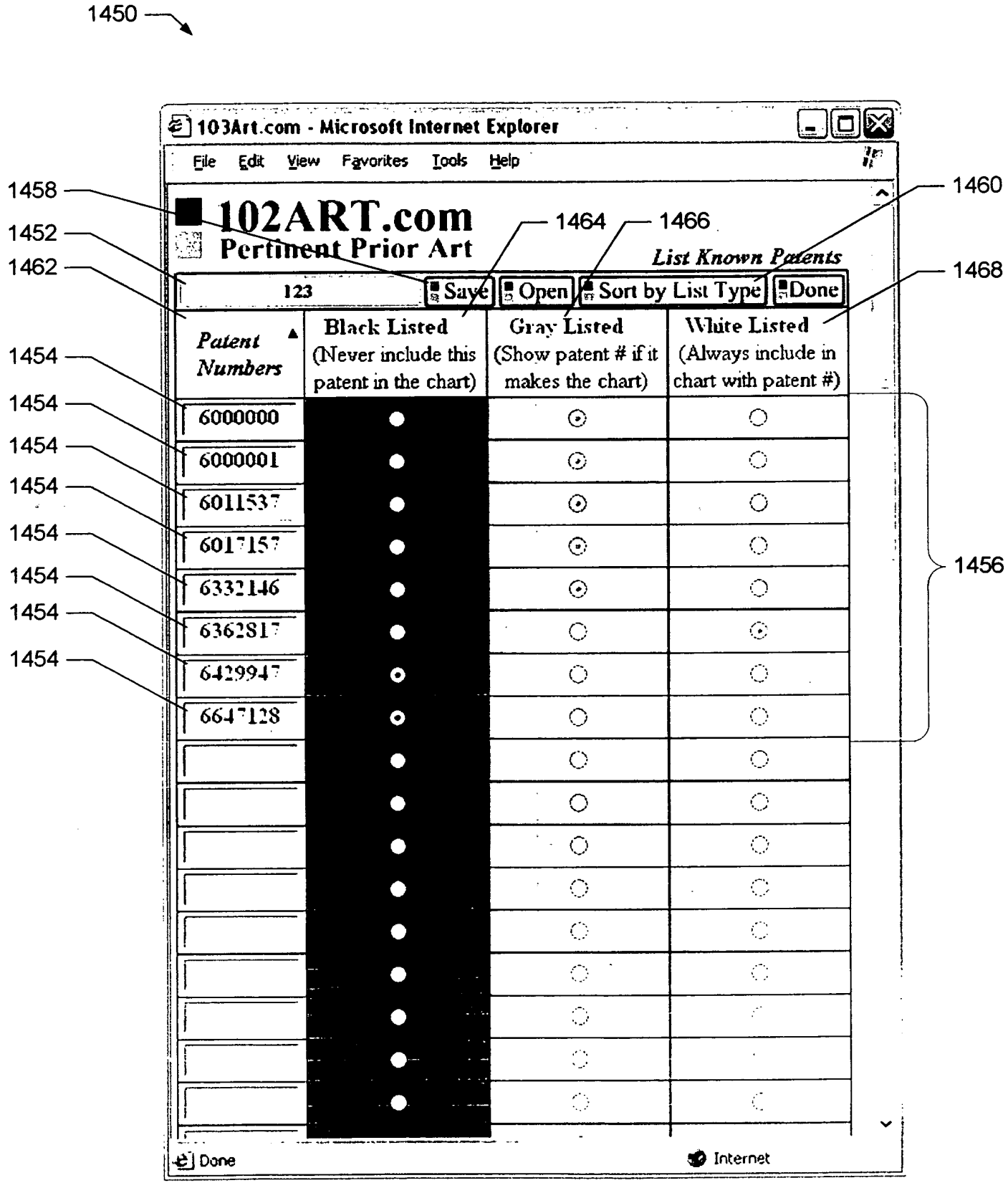
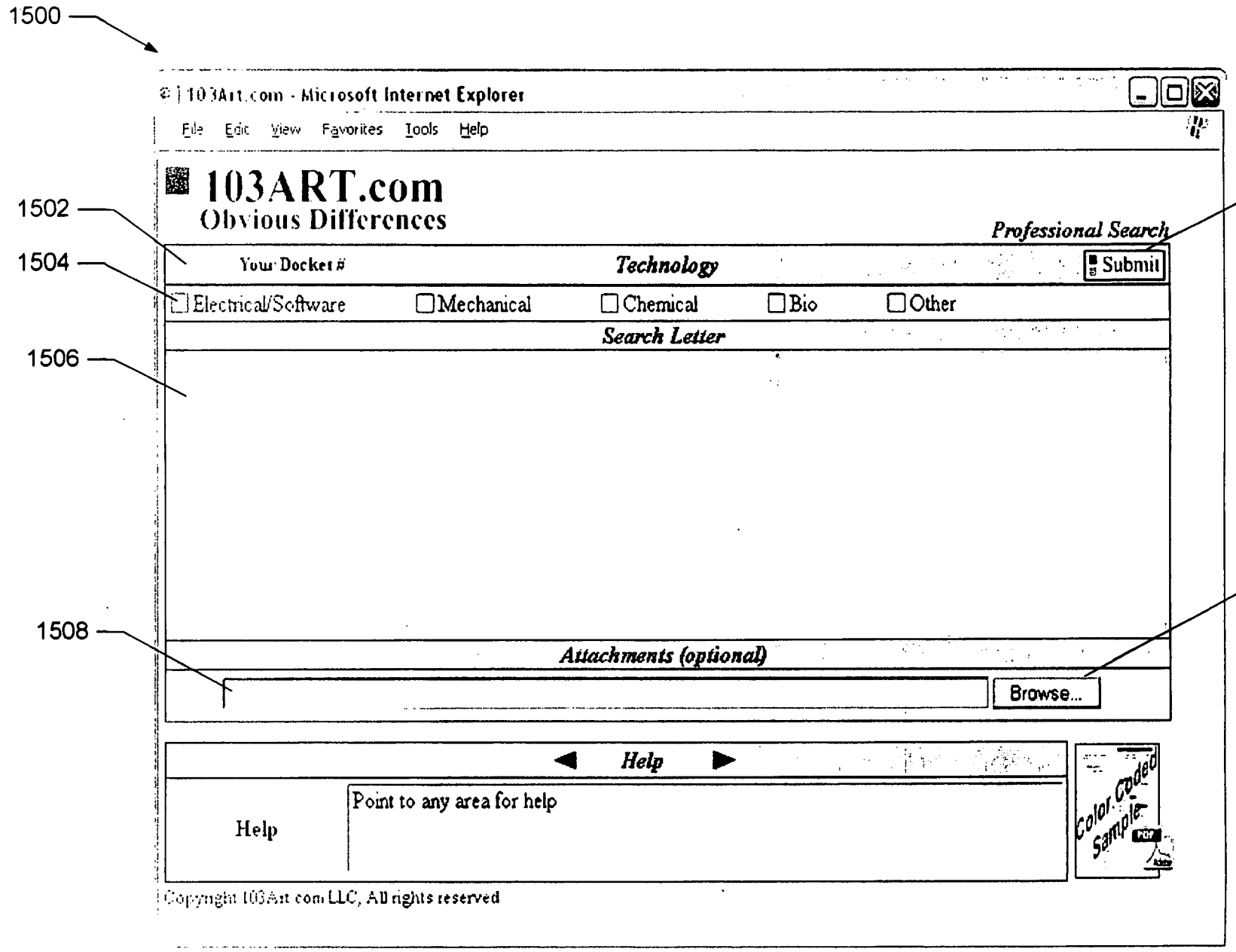

1450
103Art.com - Microsoft Internet Explorer
File Edit View Favorites Tools Help
102ART.com
Pertinent Prior Art
List Known Patents
123
Save
Open
Sort by List Type
Done
Patent Numbers
Black Listed (Never include this patent in the chart)
Gray Listed (Show patent # if it makes the chart)
White Listed (Always include in chart with patent #)
6000000
6000001
6011537
6017157
6332146
6362817
6429947
6647128
Done
Internet
1458
1452
1462
1464
1466
1460
1468
1454
1456



FIG. 14b




Methods and Apparatus to Search and Analyze Prior Art
Inventor: Goedken
Docket: 102Art.com/1



FIG. 15

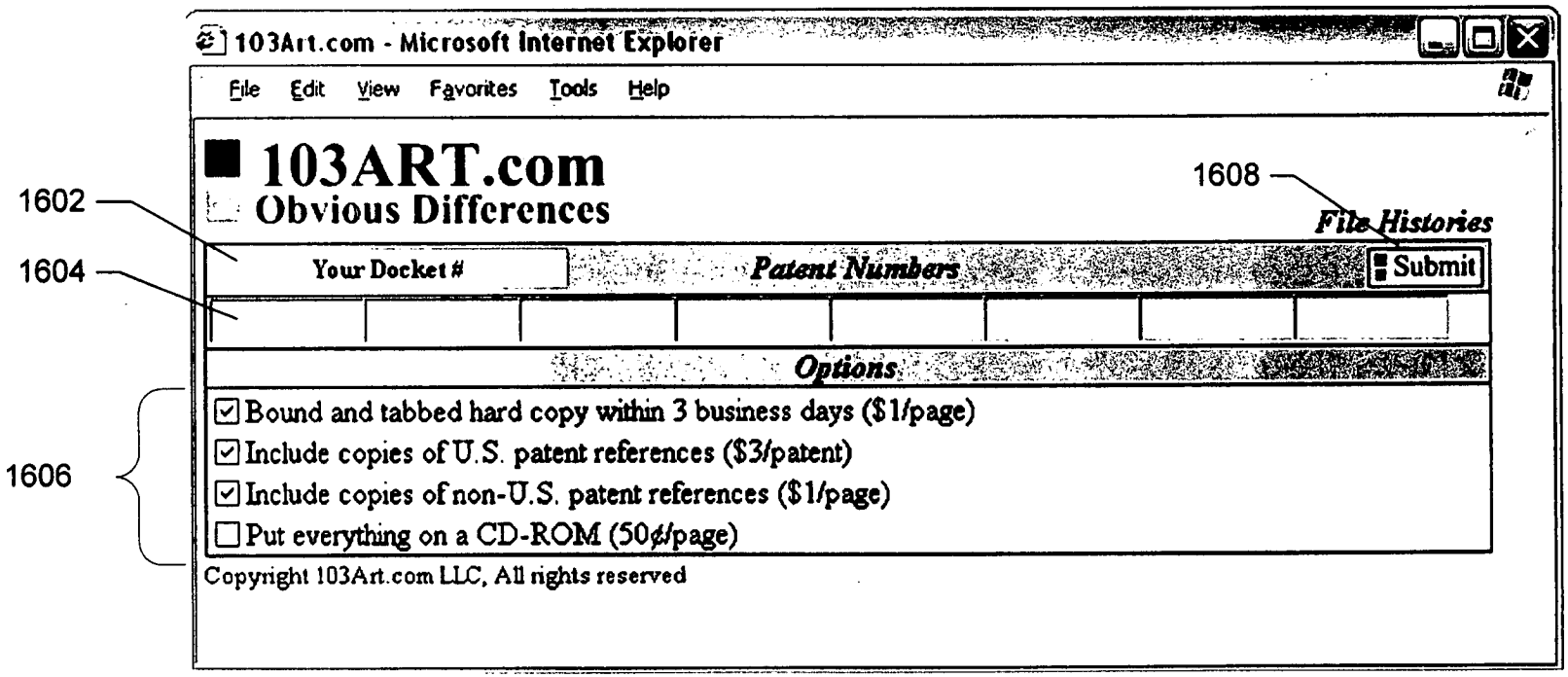

1600
103Art.com - Microsoft Internet Explorer
File Edit View Favorites Tools Help
103ART.com
Obvious Differences
1602
1604
1606
1608
File Histories
Your Docket #
Patent Numbers
Submit
Options
Bound and tabbed hard copy within 3 business days ($1/page)
Include copies of U.S. patent references ($3/patent)
Include copies of non-U.S. patent references ($1/page)
Put everything on a CD-ROM (50¢/page)
Copyright 103Art.com LLC, All rights reserved



FIG. 16

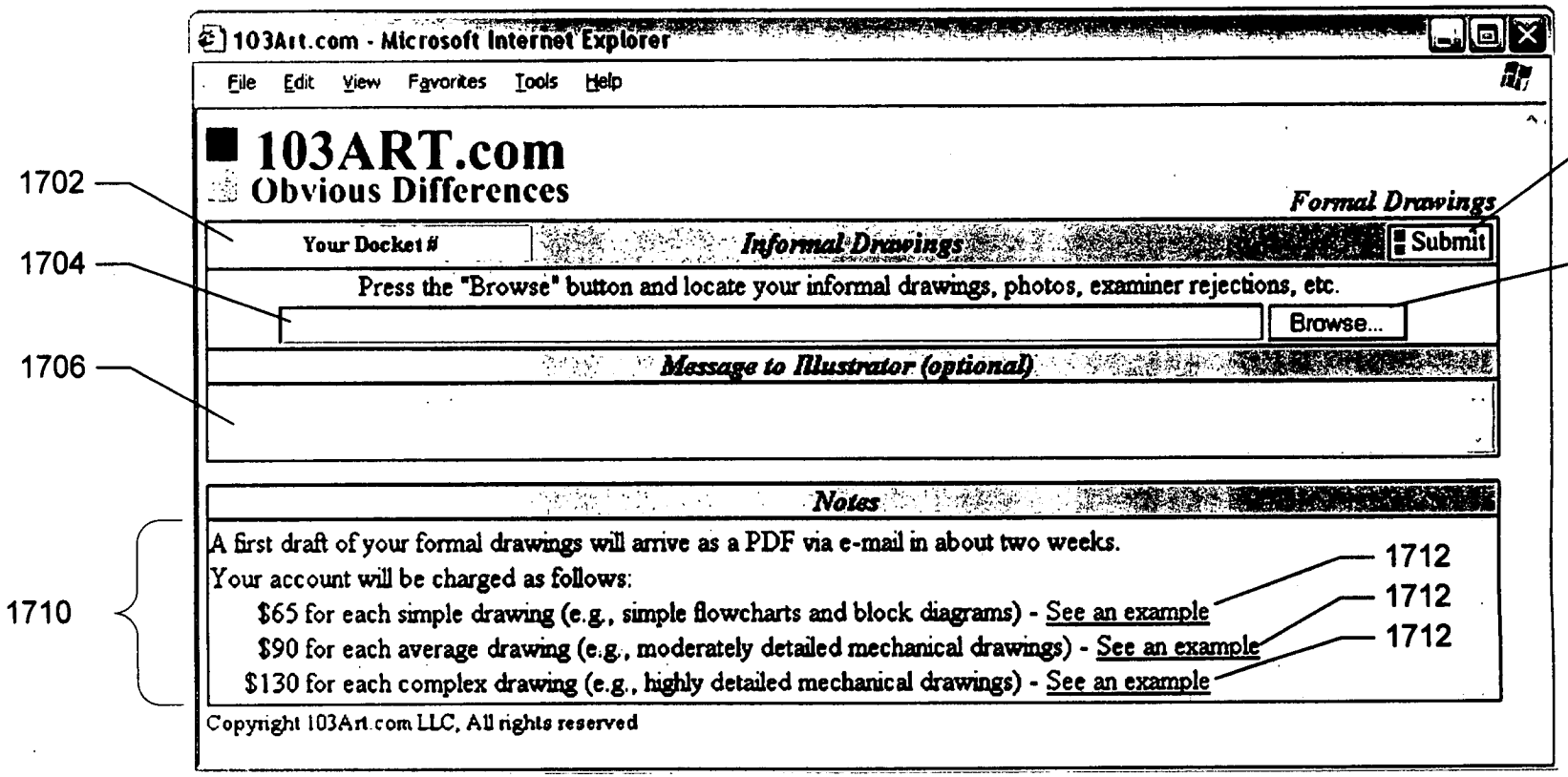

1700
103Art.com - Microsoft Internet Explorer
File Edit View Favorites Tools Help
103ART.com
Obvious Differences
1702
Your Docket #
Informal Drawings
Formal Drawings
1714
Submit
1704
Press the "Browse" button and locate your informal drawings, photos, examiner rejections, etc.
Browse...
1708
1706
Message to Illustrator (optional)
Notes
1710
A first draft of your formal drawings will arrive as a PDF via e-mail in about two weeks.
Your account will be charged as follows:
$65 for each simple drawing (e.g., simple flowcharts and block diagrams) - See an example
$90 for each average drawing (e.g., moderately detailed mechanical drawings) - See an example
$130 for each complex drawing (e.g., highly detailed mechanical drawings) - See an example
1712
1712
1712
Copyright 103Art.com LLC, All rights reserved





FIG. 17

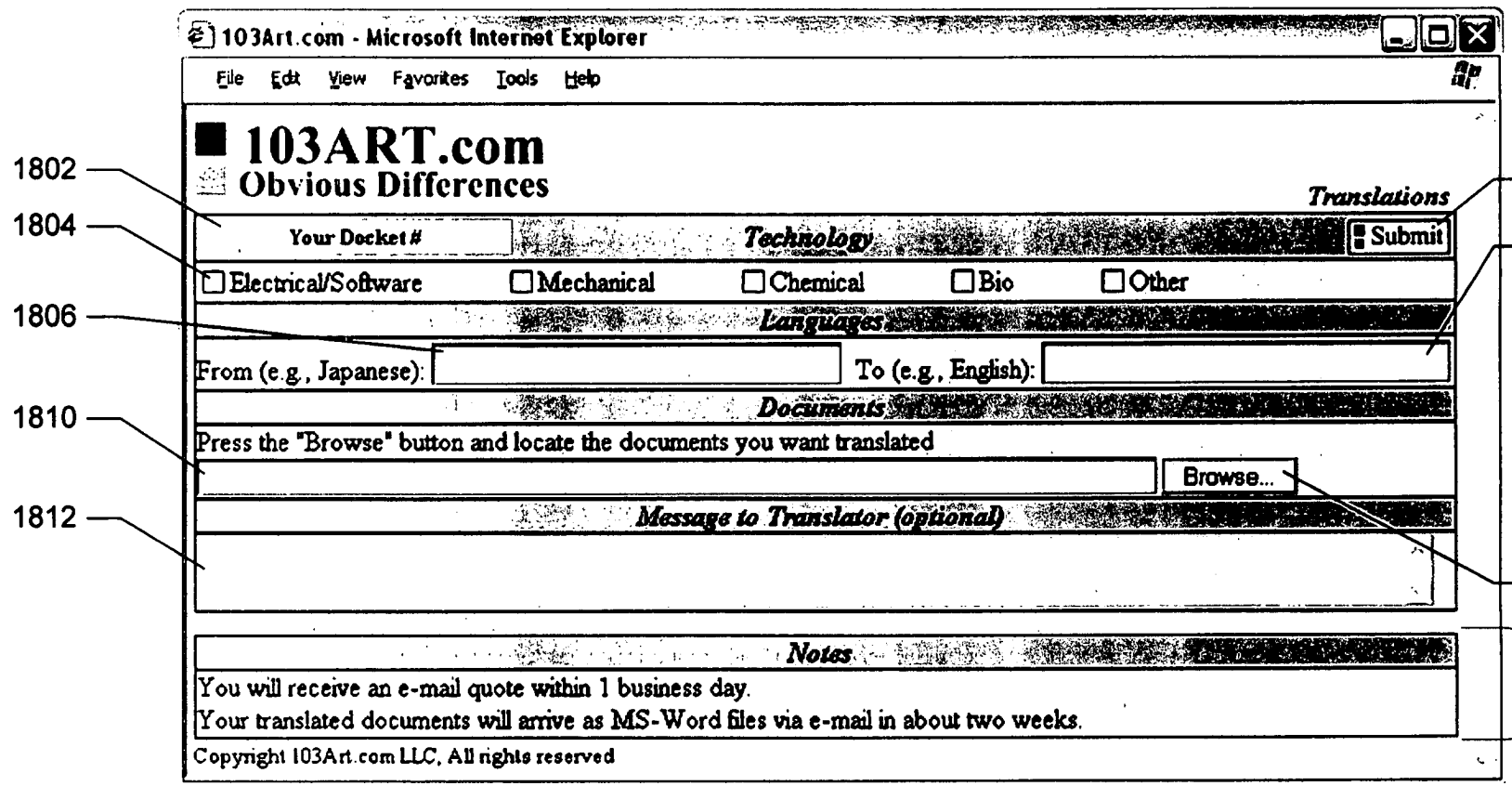

1800
103Art.com - Microsoft Internet Explorer
File Edit View Favorites Tools Help
103ART.com
Obvious Differences
Translations
1802
Your Docket #
Technology
Submit
1818
1804
Electrical/Software
Mechanical
Chemical
Bio
Other
1808
1806
Languages
From (e.g., Japanese):
To (e.g., English):
Documents
1810
Press the "Browse" button and locate the documents you want translated
Browse...
1812
Message to Translator (optional)
1814
Notes
1816
You will receive an e-mail quote within 1 business day.
Your translated documents will arrive as MS-Word files via e-mail in about two weeks.
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FIG. 18

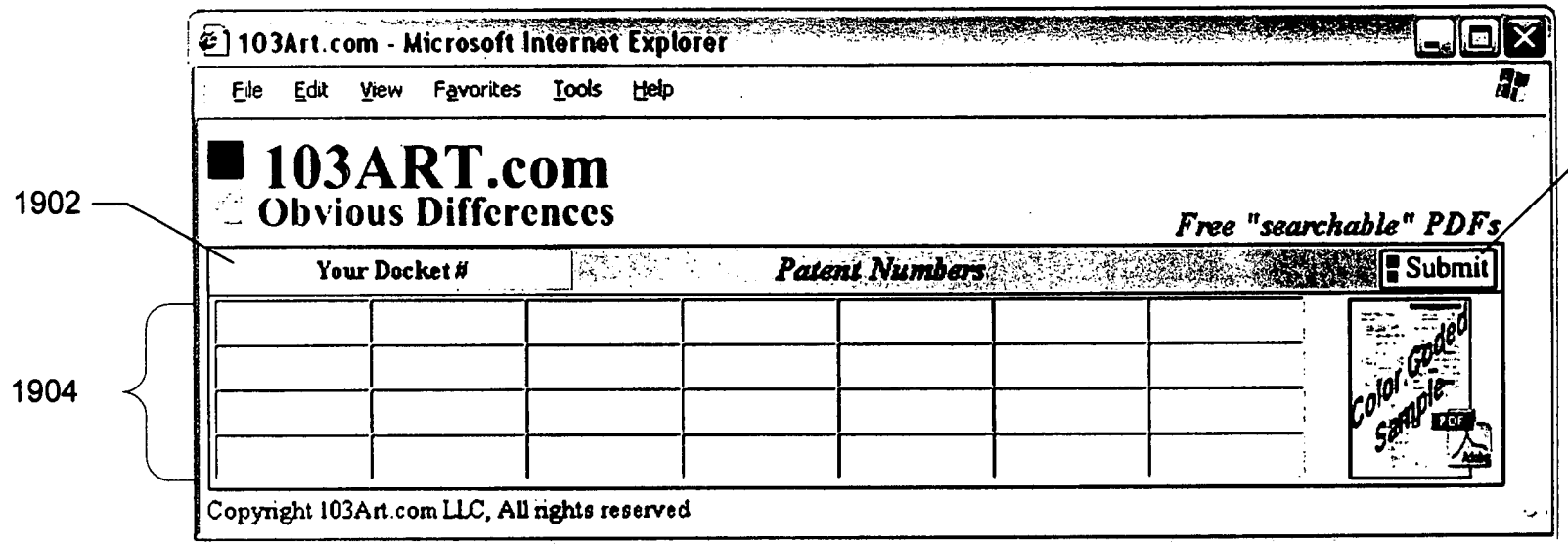
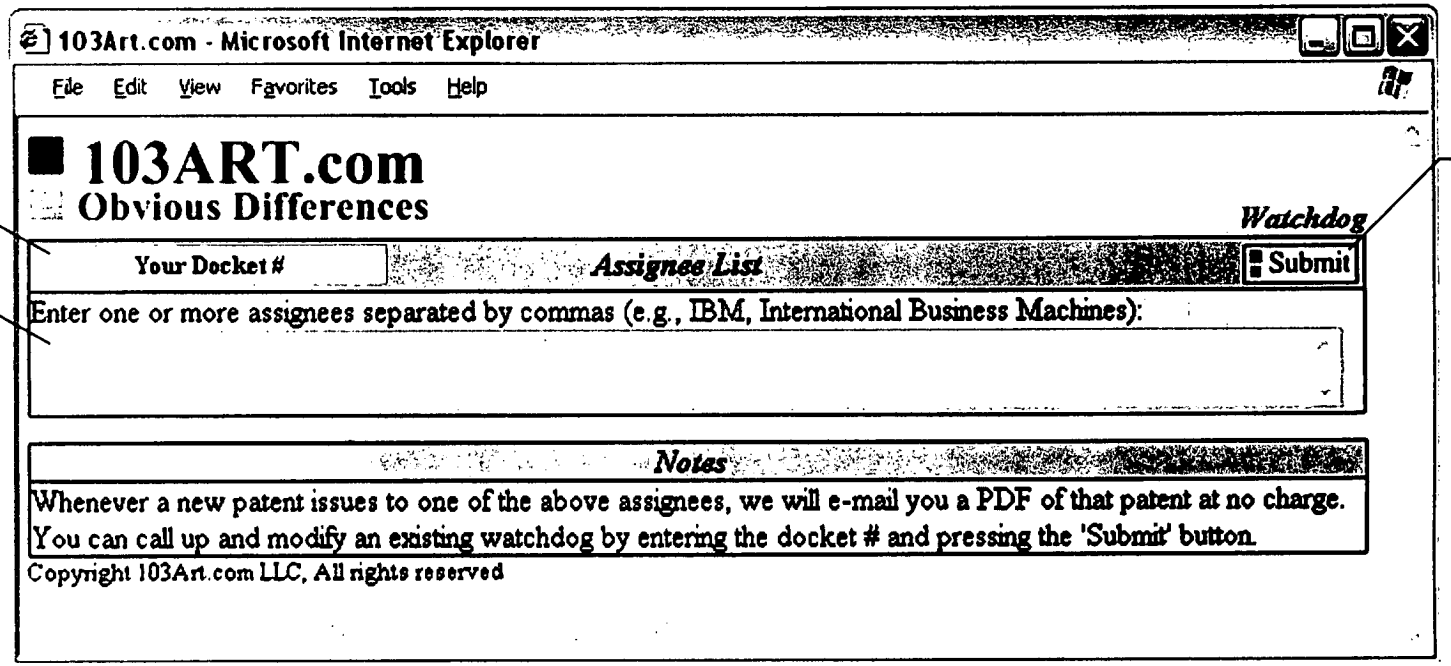

1900
1902
1904
1906
103Art.com - Microsoft Internet Explorer
File Edit View Favorites Tools Help
103ART.com
Obvious Differences
Free "searchable" PDFs
Your Docket #
Patent Numbers
Submit
Color-Coded Sample
Copyright 103Art.com LLC, All rights reserved



FIG. 19

2000




2002

2004

2006



FIG. 20

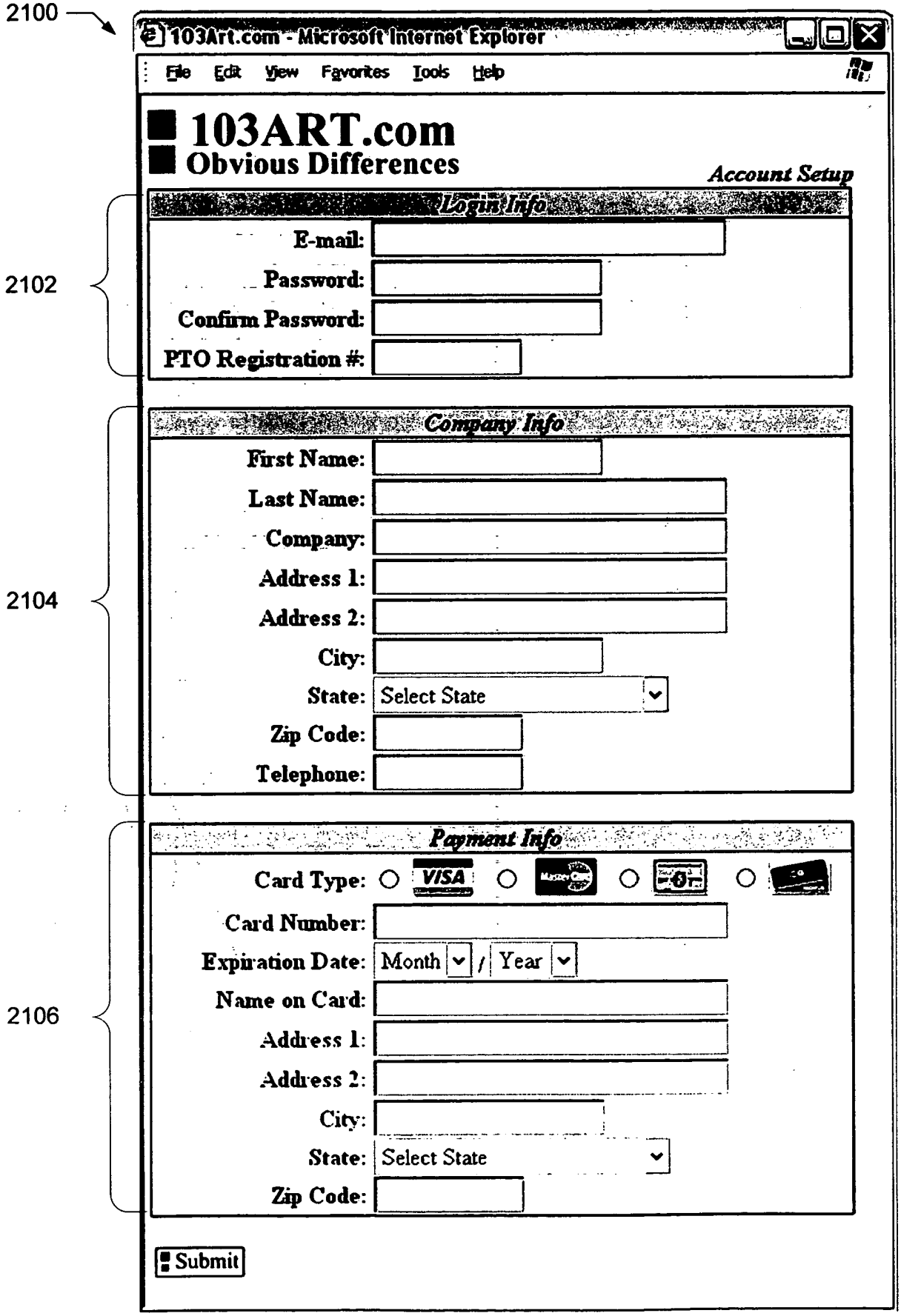

2100
103Art.com - Microsoft Internet Explorer
File Edit View Favorites Tools Help
103ART.com
Obvious Differences
Account Setup
Login Info
E-mail:
Password:
Confirm Password:
PTO Registration #:
2102
Company Info
First Name:
Last Name:
Company:
Address 1:
Address 2:
City:
State:
Select State
Zip Code:
Telephone:
2104
Payment Info
Card Type:
VISA
Card Number:
Expiration Date:
Month
Year
Name on Card:
Address 1:
Address 2:
City:
State:
Select State
Zip Code:
2106
Submit



FIG. 21

2200

**United States Patent** [19]
**Garfinkle et al.**

[11] **Patent Number: 6,017,157**
[45] **Date of Patent: Jan. 25, 2000**

[54] **METHOD OF PROCESSING [redacted] AND DISTRIBUTING VISUAL [redacted] PRODUCED FROM THE [redacted]**

[75] Inventors: **Phillip N. Garfinkle**, Herndon, Va.; **Yaacov Ben Yaacov**, Jerusalem; **Elliot D. Jaffe**, Hashmonaem, both of Israel

[73] Assignee: **PictureVision, Inc.**, Herndon, Va.

[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

[21] Appl. No.: **08/773,756**

[22] Filed: **Dec. 24, 1996**

[51] Int. Cl.[7] ..... **G03F 3/10**; H04N 1/04

[52] U.S. Cl. ..... **396/639**; 395/226; 395/227; 355/40

[58] Field of Search ..... 395/226, 227, 395/230, 234; 355/40, 41, 72, 77; 396/4–29, 638–639

[56] **References Cited**

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|---|---|---|---|
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| 4,862,222 | 8/1989 | Staude et al. | 355/40 |
| 4,918,484 | 4/1990 | Ujiie et al. | 355/41 |
| 4,935,809 | 6/1990 | Hayashi et al. | 358/76 |
| 4,951,086 | 8/1990 | Hicks | 355/41 |
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| 5,072,254 | 12/1991 | Hicks et al. | 355/50 |
| 5,072,256 | 12/1991 | Hicks | 355/71 |
| 5,093,682 | 3/1992 | Hicks | 355/1 |
| 5,097,292 | 3/1992 | Hicks | 355/75 |
| 5,319,401 | 6/1994 | Hicks | 354/76 |
| 5,321,465 | 6/1994 | Hicks | 355/77 |
| 5,512,396 | 4/1996 | Hicks | 430/21 |

*Primary Examiner*—Safet Metjahic
*Assistant Examiner*—Michael Dalakis

[57] **ABSTRACT**

This invention is directed to a method of processing at least one [redacted] of at least one photographic [redacted] and distributing at least one visual [redacted] produced from the at least one [redacted] The method includes the steps of storing at least one [redacted] of at least one photographic image on at least one image [redacted] at a first location. Selective authorized access to the at least one digital image of the at least one photographic image from a second location is then facilitated. Orders are received for at least one visual [redacted] of the at least one photographic image from the second location. Based upon the orders at least one visual image is produced from the stored digital image at the first location in response to the at least one order.

**38 Claims, 18 Drawing Sheets**

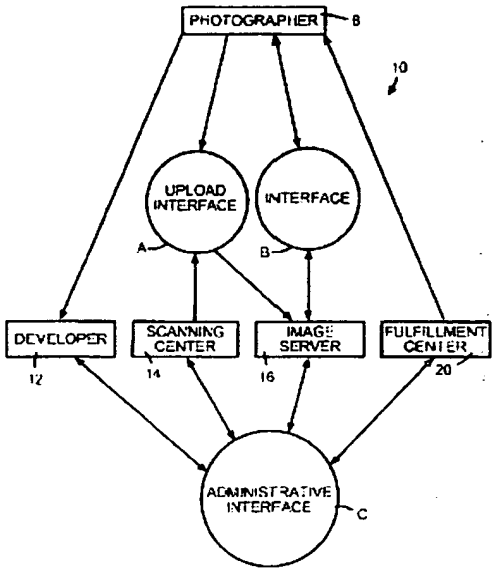




FIG. 22

2300



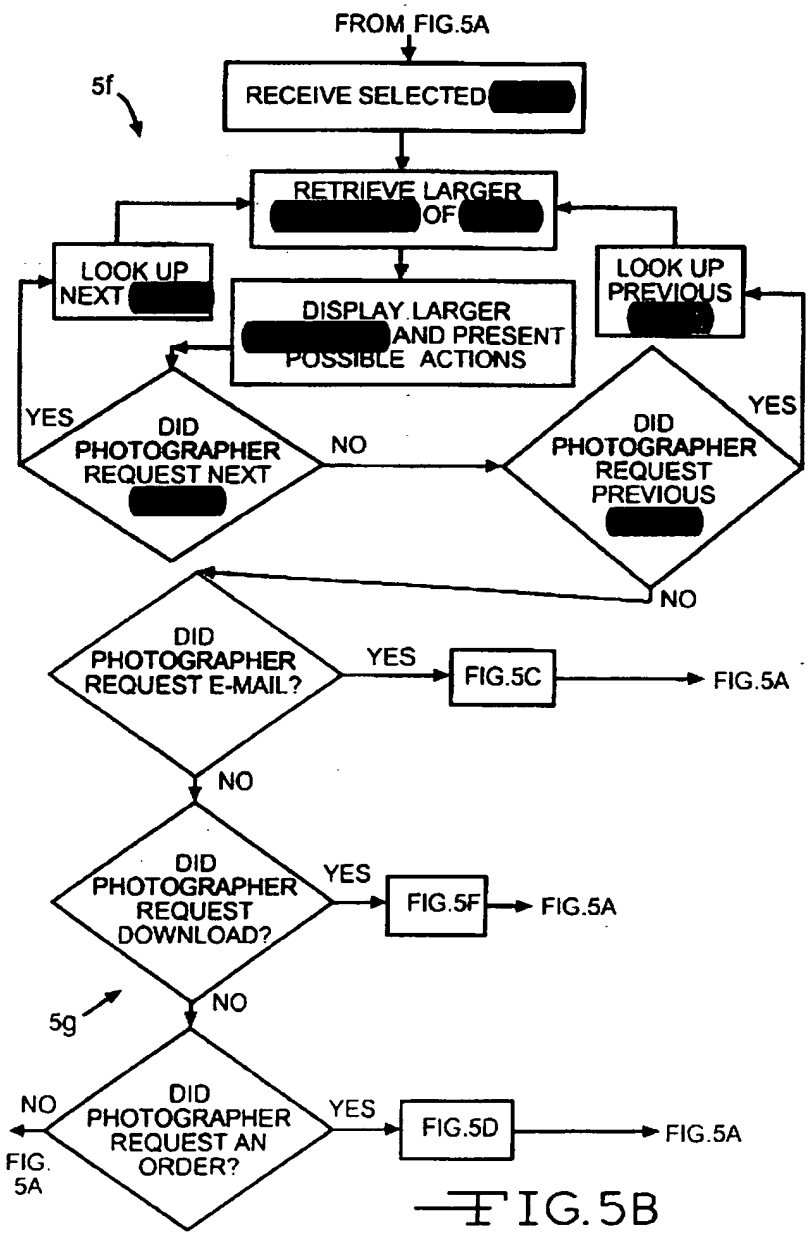


FIG.5B



FIG. 23

2400



In a preferred embodiment, an access code is associated with each roll of film 9*b*, and the [redacted] are accessed at the [redacted] 16 through the use of the interface B by HyperText Markup Language (HTML) pages on the [redacted] or a client interface accessing an [redacted] using a proprietary protocol over a computer network such as the [redacted]. Examples of a client interface include a plug-in module for the well-known Adobe Photoshop or a stand-alone imaging application specially designed for this purpose.

In a most preferred embodiment, the photographer 8 accesses HTML pages from a WWW browser using either the Secure HyperText Transport Protocol (HTTPS) or HyperText Transport Protocol (HTTP) to access a Netscape Enterprise [redacted] running on an Axil 320 Spare acting as the [redacted]. The Netscape [redacted] is configured with an HTML forms interface which accepts the unique access code and provides access to [redacted] (small replicas of the full [redacted] of the [redacted] in the roll in the form of an online proof sheet. The interface B allows the photographer 8 to perform specific tasks using the [redacted] such as the ability to electronically mail (e-mail) an [redacted] to another party; download an [redacted] to the photographer's home computer 9*f*, see FIG. 9C; or order a visual [redacted] of a specific [redacted] in a variety of formats and sizes, such as photographic [redacted] or enlargements of photographic [redacted] and photographic merchandise including T-shirts, sweatshirts, mugs, mouse pads, puzzles, ties, buttons, electronic slide shows, and other items bearing the [redacted].

It will be appreciated that when downloading or e-mailing a [redacted] the [redacted] of the [redacted] is preferably reduced to a screen size of 600x400 pixels or 712x512 pixels. These sizes are more appropriate for screen display of the [redacted] and allow faster transfer of the data over a network.

In a preferred embodiment, the [redacted] 16 is connected to the [redacted] to allow the processed [redacted] to be accessed from remote locations (second location) different from and independent of where the film is developed (first location). The [redacted] for a roll of film are maintained at the [redacted] 16 for a fixed period of time (such as 30 days), after which they are marked as deleted and, after a short grace period (such as 5 days), removed from the [redacted] to free up disk space for other [redacted]. The grace period allows for fulfillment of orders which occur after a roll is marked deleted to be handled from the [redacted] 16, since the roll is still on the [redacted] (avoiding the need to reference a backup copy of the roll). In this embodiment, multiple RAID partitions are preferably used so that the [redacted] 16 can continue to process new rolls of film when one partition is unavailable due to service or backup procedures as well known in the art. While a number of solutions exist for storing the [redacted] files for a particular roll in the RAID partitions, the process described below satisfies several important performance considerations, and is currently preferred. This process selects a directory on the [redacted] 16 for storage of the [redacted] and assumes that this location is stored along with the related roll information (e.g., access code, name, etc.) in a database (with the access code serving as the primary index). The process for choosing a directory is as follows:

a) A directory called RAID is used, under which a directory exists for each file system partition (such as aux1, aux2, etc. up to 365 maximum partitions). Partitions are large enough to store a large number of rolls (generally 12–15 Megabytes per roll) but small enough to be backed up to a single tape (with 8 mm. tapes, roughly 7 Gigabytes per partition). (see e.g., 3*g* and 3*k*, FIG. 3A). A partition directory is chosen by taking the number of partitions modulo the day of the year.

b) The preferred Axil machine runs the Solaris operating system (a version of UNIX) and can be configured to run multiple [redacted] (by responding to multiple IP addresses, such as [redacted]hotonet.com, wolf.photonet.com, etc.). To allow for this situation, each partition directory contains a subdirectory for each such site (for example, www, wolf, etc.). (see e.g., *c*), FIG. 3A). This allows multiple sites to share a single RAID directory tree.

c) If the site directory has a file called "FULL" in it, then the partition is considered unavailable and is not used. (see e.g., 3*l*, FIG. 3A). If a FULL directory is encountered, then the next numeric RAID partition is used instead (wrapping back to the first directory if necessary). (see e.g., 3*o*, FIG. 3A). If all directories are full, then the roll processing fails and the roll is not stored in the database or available to the photographer. (see e.g., 3*n*, FIG. 3A).

d) Under the site directory are a number of directories (such as "1," "2," etc. up to 365 maximum directories). This number must be relatively prime with respect to the number of RAID partitions available. (That is, the divisors of one number cannot be divisors of the other. The easiest way to accomplish this is if both numbers are prime.) (see e.g., 3*i*, FIG. 3A). The [redacted] takes the number of directories modulo the day of the year to determine which numeric directory to use. Determining directories based on the day of the year ensures that rolls of film processed on the same day will generally appear in the same directory. (see e.g., 3*mm* FIG. 3B).

e) Each numeric directory can store up to 255 rolls of film, since the UNIX file system is most efficient with no more than 255 files in a directory. (see e.g., *cp*, FIG. 3B). If a numeric directory is full, the next numeric directory is used (wrapping back to "1" if necessary). If all numeric directories are full, the next numeric partition directory is used, as in step C above. (see e.g., 3*n*, FIG. 3B).

f) A directory with a name identical to the roll's access code is created under the calculated numeric directory. (see e.g., 3*q*, FIG. 3B). Each [redacted] in the roll is stored as a separate file in this directory. (see e.g., 3*r*, FIG. 3B).

Note that the foregoing procedure is only used to determine the location of the [redacted] (see e.g., 3*s*, FIG. 3B). After the location has been determined, the database entry for the [redacted] contains the [redacted] location. All future access to the [redacted] is performed via the database entry for the [redacted].

As previously mentioned, the preferred HTML interface allows the photographer to view [redacted] of the digital [redacted]. The preferred [redacted] sizes are 16-bit true color [redacted] with [redacted] of 50x34 pixels, 64x43 pixels, 90x64 pixels, and 160x107 pixels. The [redacted] digital [redacted] can be generated when the film is originally processed (the preferred method) or on-the-fly when the [redacted] are requested by a photographer 8. In either case, the [redacted] are cached at the [redacted] 16 in a special directory reserved for this purpose. (see e.g., *el*, FIG. 3B). Subsequent access to the [redacted] may be obtained by retrieving





FIG. 24

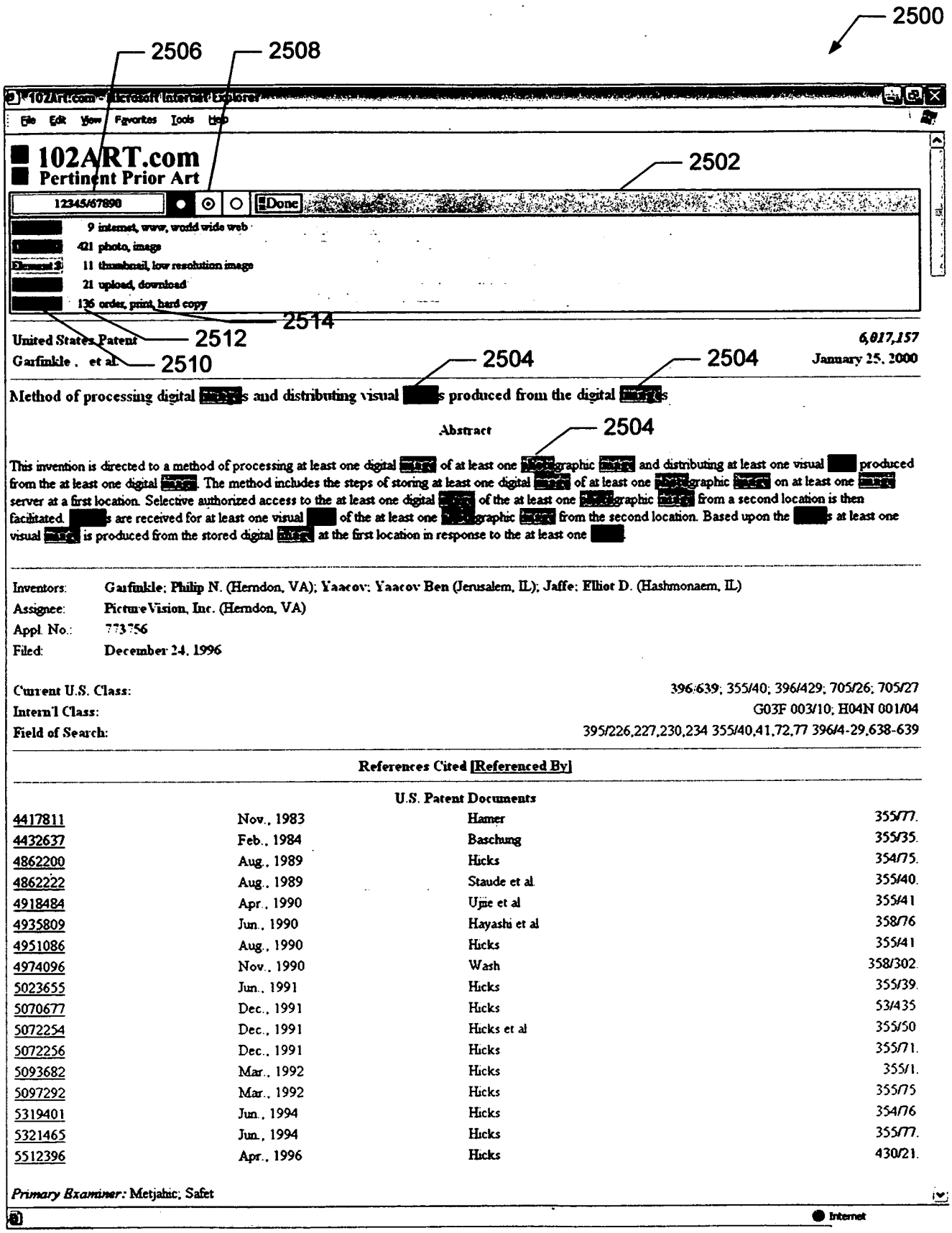




FIG. 25

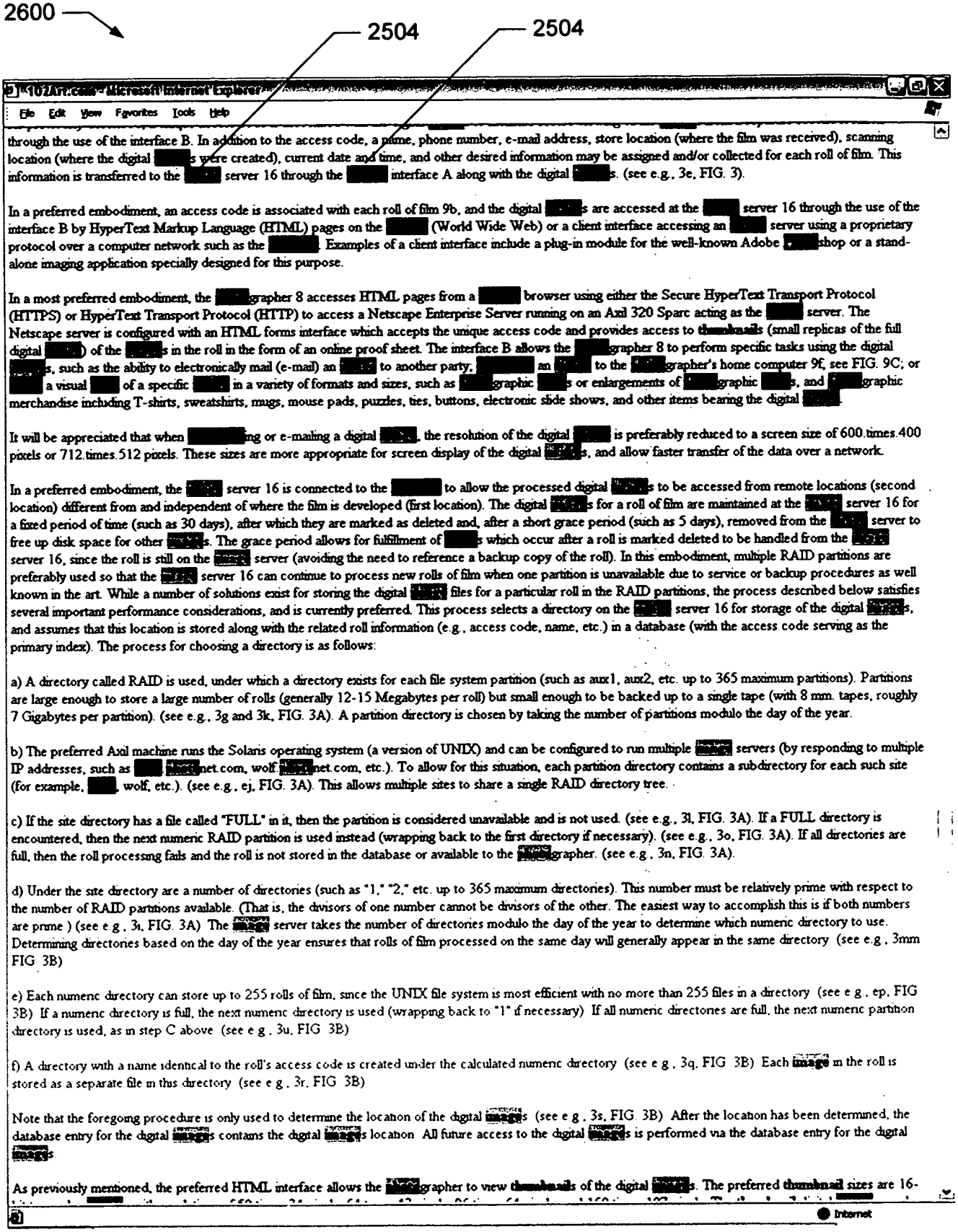




FIG. 26